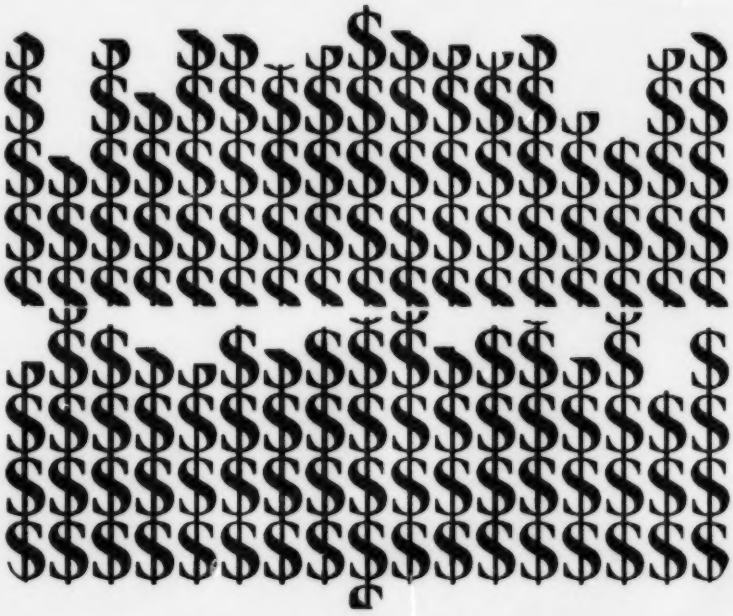
THE ECONOMICS OF LEGAL INFORMATION



THE COST OF COMPUTER-ASSISTED LEGAL RESEARCH

by Mary E. Pigott

Canadian Law Information Council

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Preface

For its entire thirteen-year history, the mandate of the Canadian Law Information Council (CLIC) has been the same: Improve access to legal information. The accessibility of legal information depends on many different elements, including among others the quality of the editorial tools provided by publishers (indexes, headnotes, retrieval software and so forth); the readability of the language used in drafting the information; and the legal rules relating to Crown copyright in reasons for judgment and statutory materials.

This series of monographs on *The Economics of Legal Information* is aimed at the role of economics in determining the accessibility of legal information. It is focussed primarily on the ways in which the new computer technology has changed the economics of legal information. The advent of centralized computer databases of primary legal information, established by private enterprise, has created "private" law libraries which are inaccessible to those who cannot afford online charges. In contrast, increases in the efficiency of legal research brought about by the computer may enable practitioners to offer legal services at a reduced cost.

These changes demand our immediate attention if the users of legal information are to benefit from the new technology; if "access" is truly to be improved. No sooner do we attempt to understand the ramifications of one technology, though, than another makes its appearance: the compact disk, which can store some 150,000 pages of text, threatens to supplant the centralized database systems to which we are now accustomed. How can the legal profession, not to mention law librarians, professors, and others, cope with this change? How will this confusion improve accessibility? How will legal publishers respond to new market forces, and new demands from an increasingly computer-literate consumer?

This series of short works is a response to these questions. We hope that it begins a useful debate in an important and difficult area.

Martin Felsky, Ph.D., LL.B.
Director, Research and Information Technology

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Introduction

The Cost of Computer-Assisted Legal Research is the second in CLIC's series of *The Economics of Legal Information*.

Few legal researchers in Canada are more knowledgeable and experienced in the use of online legal retrieval systems than Mary Pigott, Director of SEARCH-LAW, the Law Society of Upper Canada's busy research service.

In this monograph, Ms. Pigott carefully analyzes the practical consequences of pricing structures on the overall cost and effectiveness of online legal research. Canada's two major Common Law retrieval systems, QL Systems and CAN/LAW, offer their databases through different pricing concepts, one through a relatively high hourly fee, the other through a relatively low hourly fee combined with individual access and search charges.

The author discusses the implications of this difference and goes on to suggest a number of very practical, helpful strategies for maximizing research results at the lowest possible cost.

All legal researchers needing access to Canadian case law will be grateful to Ms. Pigott for providing the benefit of her experience in the following pages.

THE COST OF COMPUTER-ASSISTED LEGAL RESEARCH

Mary E. Pigott, Manager
SEARCH-LAW, Law Society of Upper Canada

A computer search is not only a fast and efficient means of conducting legal research, but it can also be very cost-effective. A computer search can retrieve, in a matter of minutes, material which would take hours, if not days, to locate by conventional library research, much of which can be tedious and frustrating. Furthermore, a computer search can instantly retrieve documents that are simply impossible to locate through manual research, no matter how much time one is prepared to spend. While computer-assisted legal research may at first appear expensive to some, it is usually quite reasonable when compared to the cost for every hour of a lawyer's time spent in a library using traditional research methods.

Although computer-assisted legal research can be relatively inexpensive, it can also cost more than need be. The inexperienced and unprepared user may waste a lot of time on the computer, and accordingly, incur unnecessary online charges. The user who makes the best use of his or her time online will get the best results per dollar expended.

The most cost-effective searches will be those which are sensitive to the two pricing structures which presently apply to QL Systems and CAN/LAW.

The cost of a computer search on QL Systems is based simply on time. The more time one spends online, the more expensive the search. As of March 1, 1988, this amounts to $150.00 per hour during prime time for high-speed users and $90.00 per hour for low-speed users. There are no additional charges for the number of searches or modifications. This type of pricing structure

permits experimentation with the choice of search terms, but penalizes those who waste considerable time online.

CAN/LAW's current pricing structure is more complicated. Since June 1, 1987, the cost of online time on CAN/LAW has been considerably less - only $15.00 per connect hour. However, there is a $3.00 charge each time a user signs on to a CAN/LAW database, a further $3.00 charge for every search and modification, and an additional fee of $0.30 for every document which is examined in its full format. This pricing structure can be advantageous when conducting long and broad searches, but can become very costly if numerous searches or modifications become necessary, or if many documents are viewed in full.

CAN/LAW first introduced its revised pricing structure on September 29, 1985, when its databases were still carried on the QL retrieval system. At that time, it charged more for online time for high-speed users ($75.00 per hour), but less for those functioning at low-speed ($10.00 per hour). There was a $3.00 sign-on charge, a $3.00 charge for every search or modification, but no document charges.

The change in the CAN/LAW pricing structure at that time seemed to increase the cost of computer searching. SEARCH-LAW, the Law Society of Upper Canada's computer-assisted legal research service, monitored the difference in cost between the existing cost regime and the former price structure ($150.00 per hour for high-speed, $75.00 per hour for low-speed) for a three-week period in 1985. A record was kept of every computer search conducted between Monday, September 30, 1985, and Friday, October 18, 1985, inclusive.

During this three-week period, 88 computer searches were conducted. It should be noted that SEARCH-LAW then, as now, performed its searches during prime time, using QL's

equipment and high-speed dedicated line, and, by necessity, printing most documents while online. The total cost for these 88 searches under the existing CAN/LAW pricing structure amounted to $8,381.25. Had these searches been conducted under the former pricing structure, that is, at a straight $150.00 per hour for high-speed users, the cost would have totalled $8,070.00. The difference in cost between the existing and the former pricing structures was an additional $311.25, or approximately $100 per week. It should be noted that this figure is a conservative estimate of the difference. The cost under the former CAN/LAW pricing structure would actually have been less had there been an allowance for non-chargeable time. Furthermore, the cost under the existing pricing structure would have been more had the searches been conducted in the manner found to be most effective in the past. The existing pricing structure forced SEARCH-LAW's lawyers to change their searching techniques to a less desirable method, and in addition, caused them to avoid certain CAN/LAW databases where possible.

It is difficult to assess the impact of CAN/LAW's pricing structure as it now exists in 1988. While the cost of online time is considerably less for high-speed users - down from $75.00 to $15.00 per hour, it is slightly more expensive for low-speed users - up from $10.00 to $15.00 per hour. There is also a $0.30 per document displayed charge which can quickly add up when numerous cases are viewed in full.

SEARCH-LAW has generally found that computer searches now conducted in CAN/LAW's databases are more expensive simply because it takes much longer to conduct a search, and accordingly, the cost for the searcher's time is greater. Given that CAN/LAW cannot be accessed at high-speed (9600 baud), it now takes more time to page through the results of a search. In addition, the $0.30 per document display charge usually requires that search

results be viewed in **peek** first. This **peek** command displays the style-of-cause, jurisdiction, date and the lines in which each search term occurs.

Unfortunately, this command is of limited value. It does not function properly where the **wthn** (within) or **bsd** (beside) connectors are used. Only one part of the equation is displayed when the **peek** command is employed. Since the whole point of using the **wthn** and **bsd** connectors is to link search terms together, the **peek** command is virtually useless if this proximity is not displayed. CAN/LAW is apparently attempting to correct this problem, but in the meantime, the **peek** command is of little or no value when the **wthn** or **bsd** connectors are used in a query. This means that the **display** command must be used but, by definition, this amounts to a charge of $0.30 per document.

The other problem with the **peek** feature is that it is very time-consuming. The searcher must first review every case in **peek** to see if it may be relevant, record the number of each pertinent document and then go through the results of the search again, displaying in full format these select cases. Given that the **peek** command provides a limited view of each case, it is often difficult to determine if a particular document is truly relevant. While the **peek** feature allows the searcher to eliminate cases that have been retrieved elsewhere or that are obviously irrelevant, it is not always possible to ascertain if the document is on point. When this problem arises, it is wise to examine the case in full, but of course, there will be a $0.30 charge to do so. In addition, it will take more online time and, more importantly, more of the searcher's time. It is often difficult to decide if it would be cheaper to review the results of a search once using the full **display** command or to examine the search twice using both **peek** and then the full **display** command where appropriate.

In short, SEARCH-LAW has found that CAN/LAW searches can be quite expensive. The sign-on, search and display charges can add up quickly, particularly where numerous searches are conducted in several databases and many documents are displayed. In addition, CAN/LAW searches can take longer to complete, and therefore, the cost of the searcher's time is more expensive. If a lawyer is billing $100.00 per hour, a half-hour search is not going to be inexpensive when the lawyer's time is also considered in addition to the online cost.

Not only does the current CAN/LAW pricing structure appear to be more expensive, but also it tends to discourage efficient and logical searching. When several issues must be researched, it is no longer possible to search one issue in every database before moving on to the next issue. Once a CAN/LAW database is accessed, all issues must be researched together or otherwise a $3.00 charge is levied each time the searcher re-enters the database. As a result, cases from a number of different issues are often intermingled if they are printed while online.

The present pricing structure applicable to all CAN/LAW databases also discourages experimentation. Given that there is a $3.00 charge every time a search is modified, gone are the days when the searcher could experiment in a CAN/LAW database to determine the correct choice of search terms.

In summary, SEARCH-LAW has found that the current CAN/LAW pricing scheme has increased the cost of computer searching and has also affected the quality of this means of performing research. Given that most of SEARCH-LAW's patrons are only prepared to spend a limited amount of money for a given search, the increased cost has meant that the scope of its searches must often be curtailed. In practical terms, this means that

SEARCH-LAW's lawyers must be selective about the databases they choose to search. Often, sufficient funds are not authorized to permit a search of all databases. In many instances, the *Dominion Law Reports* (DLR) and *Western Legal Publications* (WLP) databases must be omitted from a search. Furthermore, all possible queries cannot be attempted. It may not be worth an extra $3.00 or $6.00 to try variations of the search terms. Sometimes it becomes necessary to abandon particular searches because the likely results do not justify the cost involved.

In all fairness to CAN/LAW, it can also be more expensive these days to conduct a computer search on QL Systems. As more databases are added to the system, the conscientious searcher must allow more time to search these databases. This means an increase in the online cost, since QL bills on the basis of time, and an increase in the cost for the searcher's time.

The addition of numerous full-text databases containing unreported judgments from across Canada is largely responsible for these increased costs, for two reasons.

First of all, QL does not as yet have the facility to permit the searcher to display documents in a "kwic"-type format (key words in context). When proximity connectors are used in full-text databases, QL's **locate** command displays each page where any one of the search terms appears, not just those pages where all the proximity requirements are met. If the document is a lengthy one, it may take considerable time to finally locate those pages where all the relevant search terms appear with the desired proximity. Changing the highlighting may help in some cases, but it still does not guarantee that the searcher will immediately find the key words in the appropriate context. Where money is limited, the searcher may be forced to restrict the search

to the headnotes or summaries, thus losing the benefit of the full-text feature of the database.

The second problem with these full-text judgment databases is that most of the cases are unreported. While access to such decisions is generally welcomed, it means that the full text of these judgments must be printed, since they are not available in reported sources and most do not contain headnotes or summaries. Numerous lengthy cases can be very expensive to print online, while offline printing usually requires waiting a couple of days for the results. Downloading to disk and printing later is certainly advisable to save online and print costs.

Duplication of cases is also a problem which adds to the cost of computer searching. The same case may appear in five or six databases. Obviously, time and money can be wasted in examining and printing the same decision over and over again. Checking the printout to see if a particular case has already been printed can delay the search and increase the cost. But printing the same case over and over again also wastes time and money.

A final problem which SEARCH-LAW has experienced in using QL is the slow response by the system at certain times of the day. In some instances, searches conducted in the afternoon can take twice as long to perform as they would at other times of the day. The hours of 2:00 p.m. to 4:00 p.m. Eastern Standard Time seem to be particularly prone to delays. This problem can be very frustrating if a search must be conducted immediately and cannot be postponed to another time or another day. Searches conducted during these peak periods can be very expensive because of the increased online cost and the cost for the extra time spent by the searcher in completing the search. Apparently this problem is most noticeable in the Toronto area, and QL is attempting to alleviate the situation as best it can. However, ever-

increasing use of the system may also exacerbate the problem in the future.

Given that the price structures applicable to QL Systems and CAN/LAW are different, the searcher should endeavour to use these differences to his or her advantage. The goal should be to maximize the benefits of a particular pricing structure while minimizing any of the disadvantages. There are a number of techniques which can improve efficiency and reduce unnecessary costs. A few search strategies which might help in this regard are indicated below.

1) ***Plan Ahead***

The necessity of planning and organizing a search prior to signing-on cannot be over-emphasized. The searcher should consider and commit to paper all relevant search terms and possible synonyms, the required connectors and any field restrictions. It is also wise to think of alternative search strategies. If the initial search produces too many or too few cases, the searcher should have readily available other queries which will narrow or broaden the search. While one cannot foresee all eventualities, careful planning at the outset will prevent costly mistakes.

2) ***Pay Attention to Detail***

It is not uncommon to waste money correcting stupid mistakes. Once the query is entered into the computer, a few seconds of proofreading can eliminate typing errors, inappropriate or missing truncation, or incorrect connectors. It is most annoying to realize after a search has been

completed that one of the key terms was not spelled correctly or that the selected proximity connector did not actually function as was originally anticipated.

3) ***Experiment in QL Databases***

More often than not, it is difficult to anticipate the likely search results of any given query. Numerous modifications in any of the CAN/LAW databases will significantly add to the cost of the search. Therefore, it is wise to search in a QL database until the searcher has arrived at the correct search terms and connectors. The *Dominion Report Service* (DRS) database is a good place to start. This database contains cases from all jurisdictions of Canada and from many different report series. Both criminal and civil cases are available. The summaries are also relatively short compared to other databases containing lengthy headnotes or full-text judgments. It usually provides a good reflection of search results in other databases.

4) ***Use CAN/LAW Databases for Broad Searches***

CAN/LAW databases are cheaper per minute than QL databases. They are therefore ideal for broad searches. Rather than conducting numerous narrow searches, and thereby incurring a new search charge each time, it can be more efficient to enter a broad query which will cover all of the issues involved. The *All-Canada Weekly Summaries* (ACWS) database is particularly good for this type of search as the digests are short, succinct, and contain relevant details such as quantum of damages or amount of spousal support.

5) ***Stay in CAN/LAW Databases Until All Searches Are Completed***

A searcher is well-advised to remain in a CAN/LAW database until all possible searches have been completed in that database. There is a sign-on charge every time a user enters a CAN/LAW database during a search. If the searcher jumps in and out of the database frequently, the sign-on and search charges will quickly add up. It is more cost-effective to exhaust all search possibilities in a particular CAN/LAW database than to hastily leave the database, only to think of another possibility that the searcher then wants to try.

6) ***Prioritize the Databases***

While a search of all databases ensures that material is not missed, it may not be worth the additional cost. For example, if the user is interested in Ontario case law and has searched the *Ontario Reports Plus* (ORP), *Dominion Reports Service* (DRS) and *All-Canada Weekly Summaries* (ACWS) databases, a search of the *Dominion Law Reports* (DLR) database may not be the best use of money. Many of the headnotes in the DLR database are identical to those which appear in the *Ontario Reports Plus* (ORP) database, and therefore, no new material may be retrieved. On the other hand, there are some Ontario decisions in the *Dominion Law Reports* (DLR) database which are not available elsewhere. The searcher then must weigh the likelihood of obtaining any new material against the probable expense involved. By prioritizing the databases to be searched, the user may decide not to search a particular database once a certain cost has been reached.

7) ***Avoid Duplication***

Many cases are reported in more than one database. If the searcher is not careful, money can be wasted printing the same case more than once. Unfortunately, there is no technique which automatically excludes from a search in one database all those cases which were previously retrieved in another database. One method which is helpful in eliminating duplication is the use of the reverse chronological command on QL prior to entering the query. Once the search has been conducted in one database, such as the *Dominion Reports Service* (DRS) database, the printout can be used to compare against the cases which appear in another database, for example the *All-Canada Weekly Summaries* (ACWS) database. By comparing the case names and dates, one can avoid printing the same case twice. Another possibility is to jot down the case names and court level of every document printed. The searcher then has an ongoing record of each document printed and needs only print new cases or alternative citations.

8) ***Save All Queries***

Saving queries can save time and money. Sometimes after looking at all the cases generated by a particular query, the user decides to try other search terms in the same database. If the first search is saved (query #1), the results of the first search can be eliminated by typing at the end of the second query, **% (butnot) #1**. Any cases from the first search, which would have been reproduced in the second search, will be automatically removed. It is not necessary to examine the same cases twice. This only works however when the saved query and the

new query are in the same database. It should be noted that all queries are automatically saved on CAN/LAW.

9) ***Avoid the Date Range Command on QL Systems***

A computer search can be restricted by date in one of two ways. One method is to use the **@ date** command on QL. For example, **@ date after 1979** will restrict the search from January 1, 1980, to date. The disadvantage of this approach is that it is very time-consuming, and hence, expensive. A search with this type of date restriction can take as long as ten minutes in some databases. The better strategy on QL is to type simply the years desired in field 4, for example, **@4 1980 1981 1982 1983 1984 1985 1986 1987**. It takes a bit more time to type the query, but it reduces the search time considerably and saves on cost. On CAN/LAW, the date range can be easily changed before entering the search terms by using the **range** command, for example, **range after 1979**.

10) ***Consider Offline Printing***

Offline printing can be very economical. It only costs $5.00 for 1,000 lines on QL and $6.00 for 1,000 lines on CAN/LAW. It can be much cheaper than printing the same amount of material online. It seems to work best when the query produces a large number of cases, most of which seem relevant. It is not advisable if one expects that only a few documents will be relevant out of the large number which are retrieved. Downloading to disk and printing later is also advisable where possible.

11) ***Search During Off-Peak Hours***

The regular online charges for QL databases are reduced by one-half during the evening and on weekends. It makes a lot of economical sense, therefore, to take advantage of these reduced charges whenever possible. Even lengthy searches during these hours can be surprisingly inexpensive.

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As every searcher becomes more experienced with computer-assisted legal research, he or she will become more efficient in the use of online computer time. Searches are bound to be more expensive when one is just learning the system. Practice makes perfect, and it also saves money.

It is difficult to estimate the "average" cost of a computer search. Every search is different and may be broad or narrow in scope depending on the parameters of the search. SEARCH-LAW has found that most searches usually take about 30 minutes. The average cost per search for SEARCH-LAW in April 1984, was $94.24, including a service charge of $20.00 per one-half hour and $10.00 for every one-quarter hour after the first 30 minutes. In February 1988, the average cost per search was $135.85 which included a service charge of $35.00 per one-half hour, prorated for every minute after that time. During some months, the average search cost has been greater than this amount, but typically, the increased cost is affected by a few expensive searches of American or English law. One search costing $400.00 or $500.00 can easily distort the average. Since SEARCH-LAW conducts its computer searches at high-speed and usually during prime time, the average cost reflects these factors.

In conclusion, SEARCH-LAW has found that the average cost of conducting a computer search has increased over the years. This is a result of numerous factors - more documents to be examined in each database, more databases to be searched in each system, more systems to be accessed (now two systems in Canada, and greater interest in American and non-legal retrieval systems), greater online costs, and increases in the cost for searchers' time. The days of simply searching two or three databases on QL Systems are over. Most searches require use of both QL and CAN/LAW, and there is an increasing interest in other systems such as WESTLAW, LEXIS and Info Globe. All of these changes affect the cost of a computer search, but the corresponding increased demand for computer searches would seem to indicate that lawyers still find the cost of online research to be more economical than performing the research themselves using traditional manual research methods.